

# Section C Solid Waste Stabilization and Disposition (RL-0013)

## Monthly Performance Report

**KBC** Clarifier

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TRU drum repackaging

Drum Venting System II Prep Work

#### **PROJECT SUMMARY**

The Waste and Fuels Management Project (WFMP) focused on delivering safe, compliant performance while continuing organization efforts in support of the new contract structure. Management Assessments were completed on Noncompliance with Hazard Control Related to Criticality Safety and Conduct of Operations Chapter 1: Ops Organization & Administration.

The Waste Encapsulation and Storage Facility (WESF) initiated activities for Energy Savings Performance Contract (ESPC).

Mixed Low Level Waste (MLLW) Treatment made significant reduction in T-Plant Legacy M/LLW (~50m³ during January).

The TRU Retrieval project awarded testing contracts in support of resolving the 85-gal overpack issue (2 drum suppliers and NucFil®) and received RL approval of the One-Time Request for Shipment (OTRS) for Retrieval Boxes (RL-FH-RBOX-001).

WIPP Production completed the 1000+ drum Idaho National Laboratory (INL) campaign (1036 drums, 215m³) and certification of Characterization Drums (70m³). In addition, T Plant completed the controlled re-start of the TRU drum repackaging operation, repackaged 40 TRU waste containers and made 4 shipments of waste containers to Perma-Fix Northwest (PFNW) and the Central Waste Complex (CWC).

CWC shipped 278 containers, received 228 containers and initiated venting of an 85-gallon overpack in the Drum Venting System II (DVSII), which is now fully operational. In addition, the Mixed Waste Disposal Trenches received 3 off-site shipments (22 containers), 4 on-site transfers (63 containers), and shipped 1 on-site transfer (1 container).

The 200 Area Effluent Treatment Facility received 51 tankers, processed 1.9M gallons, completed Operational Test Procedures (OTPs) and firmware installation for Monitor & Control System (MCS) upgrades. The 200 Area Treated Effluent Disposal Facility (TEDF) processed 1.6M gallons, and the 310/340 Treated Effluent Disposal Facility processed 3.8M gallons.

The Canister Storage Building (CSB)/Interim Storage Area (ISA) continued construction activities for upgrades at the ISA pad.

Waste Support Services supported CHPRC projects by shipping the KBC clarifier to CWC and the first Disposable Solid Waste Cask from the Fast Flux Test Facility (FFTF) to ERDF.



#### TARGET ZERO PERFORMANCE

	CM Quantity	FYTD Quantity	Comment
Days Away, Restricted or Transferred	0	0	N/A
Recordable Injuries	0	3	N/A
First Aid Cases	8	18	1/5/09 – Employee left his vehicle and slipped on ice and contacted knee to surface. (CHPRC) – No Treatment
			1/6/09 - Employee scraped their hand while performing eyewash equipment inspections. Self-treat. (CHPRC)
			1/8/09 – While donning jacket an employee was bitten by an insect thought to be in the collar. (CHPRC) – No Treatment
			1/13/08 - While using a snow shovel to clear a sidewalk of gravel at MO-281, an employee jammed their thumb when the shovel stopped abruptly. The employee returned to work without restrictions and was provided OTC medications. (M&EC)
			1/13/09 - Employee was working on cleanup issues outside of MO-281. The employee picked up half a railroad tie (2 people lifting) and strained their back. The employee was given OTC medication and returned to work without restrictions. (M&EC)
			1/15/09 – An employee was coming to work from the parking lot and slipped as they started to climb the west stairs into MO-743. The employee grasped the hand rail, but jammed their right ring finger in the process. The employee returned to work with minor restrictions, OTC medication and a splint for support. (M&EC)
			1/26/09 – While reaching into his pocket to retrieve a coin, an employee scratched the back of his hand on his key ring. (CHPRC) – No treatment



	CM Quantity	FYTD Quantity	Comment
			1/28/09 - A clerk at LWFP was attempting to retrieve a rubber band that had fallen on the floor. The individual was leaning over the arm of their chair when the arm failed and the individual fell to the floor. After examination at AMH, the individual was diagnosed with a contusion to the right knee and a lower back strain. No medication was administered and the employee returned to work without restrictions. (CHPRC)
Near-Misses	0	0	N/A

#### KEY ACCOMPLISHMENTS

#### 13.02 Waste Encapsulation and Storage Facility (WESF)

Initiated activities in support of the Energy Savings Performance Contract (ESPC)

#### 13.03 Canister Storage Building (CSB)/Interim Storage Area (ISA)

- Sampled Multi-Canister Overpack (MCO) 388
- Initiated Material Handling Machine (MHM) annual tests and inspections

#### 13.04 Mixed Low Level Waste (MLLW) Treatment

A significant reduction in T-Plant Legacy M/LLW was made during January (~50m<sup>3</sup>)

#### 13.05 TRU Retrieval

- Overpack testing contracts were awarded to 2 drum suppliers and NucFil® in support of resolution of the 85-gal overpack issue
- Received RL approval of the OTRS for Retrieval Boxes (RL-FH-RBOX-001)

#### 13.06 WIPP Certification

- Completed characterization of 1000+ drums for planned shipment to Idaho National Laboraroty (INL) 1036 drums, 215m3
- Completed Certification of Characterization Drums (70m3)

#### 13.07 Waste Receiving and Processing Facility (WRAP)

- Completed preparations for restart of Repack Operations
- Commenced Re-characterization of Criticality Prevention Specification (CPS) Type D drums to CPS Type A drums (39 of 40 to date)

#### 13.08 T Plant

• Completed controlled re-start of the TRU drum repackaging operation, and completed repackaging of 40 TRU waste containers



• Completed 4 shipments of waste containers to PermaFix North West and Central Waste Complex

#### 13.09 Central Waste Complex (CWC)

- Shipped 278 containers, received 228 containers
- Initiated venting of an 85-gallon overpack in the now fully operational Drum Venting System II (DVSII)

#### 13.11 Liquid Effluent Facilities

- 200 Area Effluent Treatment Facility received 51 tankers, processed 1.9M gallons and completed Operational Test Procedures (OTPs) and firmware installation for Monitor & Control System (MCS) upgrades
- 200 Area Treated Effluent Disposal Facility (TEDF) processed 1.6M gallons
- 310/340 Treated Effluent Disposal Facility processed 3.8M gallons

#### 13.14 Solid Waste

 Established Solid Waste types and rates for inclusion in the Performance Measurement Baseline development

#### 13.16 SNF Disposition

- Mobilized three fixed price subcontractors which encompasses the majority of the remaining work scope.
- Awarded the fixed price contract for construction of an Outside Storage Unit at the 200 East interim storage area (ISA) pad.

#### 13.21 Mixed Waste Disposal Trenches

- Received 3 off-site shipments (22 containers)
- Received 4 on-site transfer (63 containers)
- Shipped 1 on-site transfer (1 container)

#### **Waste Support Services**

- Shipped the KBC clarifier to CWC; overcame transportation issues of payload and dose rate which was believed to be unable to ship
- Shipped first Disposable Solid Waste Cask from FFTF to ERDF

#### MAJOR ISSUES

**Issue Statement** – 85-gallon overpack wedges fail to prevent inner drum movement; adequacy of transportation controls for retrieved drums is suspect.

**Corrective Actions** – Management directive for control of 85-gallon overpack shipments, recovery plan, wedge failure mechanisms, and testing of alternative restraints complete. Testing of current configuration to determine if it meets DOT requirements in progress.

**Status** – Unable to transport 85-gal overpack drums vented with a NucFil® 007LS filter; drum retrieval on hold until solution is developed.



#### **KEY RISKS AND CHALLENGES**

Risks	Impact	Mitigation
Transportation Issues Associated with Shipping M/LLW Offsite.	Delays planned shipments impacting ability to receive the treated waste back from the treaters and dispose in time to meet proposed PI(s.)	Prioritize Transportation Engineering support for this activity.
Potential Implementation of DOE Packaging Instructions	Potential Schedule Slip at PFP and additional costs to site programs	Awaiting DOE-RL direction
Retrieved FRP boxes at CWC require improvements for long-term outdoor storage	Deteriorated boxes present potential for contamination spread and loss of containment	<ul> <li>Options for improved storage have been developed, reviewed with management</li> <li>Design/procure/implement selected options (Pending Schedule Development)</li> </ul>
Offsite Acceptance Facilities Inability to Receive Waste due to License/Permit Limitations or unplanned shutdowns.	From 1 Week to 3 Months	• Expanded DOE Order 435.1 Exemptions allowing full use of all Commercial Treatment, storage, and disposal facilities (TSDFs) for Hanford MLLW.
Inability to Ship All Required Waste Offsite Due to Transportation Restrictions (DOT and "Hanford derived" restrictions).	From 1 Week to 6 Months	<ul> <li>Implement Use of the 20' Type-A Conex Boxes Waste         Overpacking.</li> <li>Expand Use of One-Time         Request for Shipment (OTSR)         and Road Closures.</li> <li>Full Shipment Authorization for         Packages with 07LS Filters.</li> </ul>
Unplanned SWOC Facility Operational Shutdowns.	From 1 Day to Several Weeks	Cannot Mitigate
Significant contamination (greater than planned) in burial ground	Stops retrieval in specific trench location and requires control of contamination	<ul> <li>Open alternate burial ground locations</li> <li>Perform additional pilot digs</li> <li>Develop control techniques</li> </ul>
Waste retrieval process changes are required by revisions to the Authorization Basis (DOE Risk Owner)	Retrieval volumes required to meet TPA milestones or PBIs may not be reached	<ul> <li>Participate in requirement change discussions</li> <li>Minimize impacts by aggressively implementing new requirements</li> </ul>



Risks	Impact	Mitigation
Shutdown occurs. (e.g., due to drum fire, injury, or compliance issue)	Retrieval volumes required to meet TPA milestones or PBIs may not be reached	<ul> <li>Develop recovery plans for potential shutdown events</li> <li>Expedite resolution when shutdown occurs</li> <li>Preplanning with fire department</li> </ul>
Integrity of Retrievably Stored Waste (RSW) containers is less than expected	<ul> <li>Significantly increased resources required to retrieve containers</li> <li>Retrieval volumes required to meet TPA milestones or PBIs may not be reached</li> </ul>	<ul> <li>Use multiple crews for concurrent retrieval</li> <li>Declare container(s) non-RSW</li> <li>Establish path forward for non-RSW containers.</li> <li>Perform additional pilot digs</li> </ul>
The placement of Operational Layer in Trench 31 by subcontractor and pouring/curing of concrete for encasements schedule may be impacted by weather.	May cause project to fall behind on scheduled finish or miss PI/Target volume if not complete by FY09	Additional resources and OT as needed when weather breaks to get back on schedule.

## PROJECT BASELINE PERFORMANCE (\$M) Current Month

Current Month (CM)	Cost of Work		Cost	Variance	Schedule Variance (%)		Cost Variance (%)	Budget at Completion (FY 2009)
RL-0013 Waste and Fuels Management Project	6.9	8.1	9.0	1.2	17.3	(0.9)	-10.7	141.5
Numbers are round	ed to the nea	rest \$0.1M						

#### CM Schedule Performance (+\$1.2M/+17.3%)

The current month favorable schedule variance is primarily a result of implementing Baseline Change Request (BCR) PRC-09-001, Fiscal Year 2009 Interim Performance Measurement Baseline. In addition, a small contributor was the shipment of some waste ahead of plan.

#### **CM Cost Performance (-\$0.9M/-10.7%)**

The current month negative cost reflects the implementation of Baseline Change Request (BCR) PRC-09-001, Fiscal Year 2009 Interim Performance Measurement Baseline. In addition, TRU Retrieval is unable to make planned progress while expending resources to resolve the 85-gallon overpack issue and the project continues to use Mission Support Contract resources in excess of plan.



#### Fiscal Year-to-Date

Fiscal Year-to-Date	Cost of Work	Budgeted Cost of Work Performed	Cost of	Variance	Schedule Variance (%)		Cost Variance (%)	Budget at Completion (FY 2009)
RL-0013 Waste and Fuels Management Project	45.5	45.6	46.1	0.1	0.2	(0.5)	-1.1	141.5

Numbers are rounded to the nearest \$0.1M.

#### **FYTD Schedule Performance (+\$0.1M/+0.2%)**

A significant contributor to the positive variance is the early return of M-91-42 waste from offsite treaters. This is partially offset by retrieval work delays driven by resolving criticality safety program issues earlier in the year and continuing 85-gallon drum wedge issues. In addition, preparations for the receipt of Slightly Irradiated Fuel at the ISA were impacted by inclement weather.

#### FYTD Cost Performance (-\$0.5M/-1.1%)

The overall negative variance is largely due to TRU Retrieval's continued use of resources to resolve the 85-gallon overpack wedge issue while unable to make planned progress on retrieval activities. In addition, the project continues to use Fleet and Facilities Services resources from the MSC in excess of plan. This is partially offset by efficiencies in the disposal of 218W Legacy Waste, Liquid Effluent Facilities Integration, Mixed Low Level Waste Treatment.

## FY 2009 FUNDS vs. SPEND FORECAST (\$M)

		FY 2	2009	
		Projected Funding	Spending Forecast	Variance
RL-0013	Waste and Fuels Management Project	156.2	156.2	0.0

#### **Funds Analysis:**

No change was made in December.

#### **Critical Path Schedule**

Critical Path (CP) analysis is limited as the contract cycle schedule is under development awaiting key deliverable inputs and funding considerations. Critical Path Analysis for sub-project activities that reach an endpoint within FY 2009 can be provided upon request.



#### **Estimate at Completion**

CHPRC will conduct an initial Estimate at Completion (EAC) in April 2009. For this report, the EAC and fiscal year Budget at Completion are considered equal.

#### **Baseline Change Requests**

See Overview.

#### **MILESTONE STATUS**

Tri-Party Agreement milestones represent significant events in project execution. DOE Enforceable Agreement milestones were established to provide high-level visibility to critical deliverables and specific status on the accomplishment of these key events. A revised Performance Measurement Baseline is currently being developed that will define CHPRC planning with respect to TPA milestones.

Number	Title	Туре	Due Date	Actual Date	Forecast Date	Status/ Comment
M-91-40N	Designate large containers determined to be LLW.	TPA	12/31/08			Work completed 12/31/08. Completion documentation in process.
M-91-42E	7220 Cubic Meters (cumulative) shall be treated by 12/31/08.	TPA	12/31/08			Work completed 12/31/08. Completion documentation in process.
M-26-07B	Evaluation of Tritium Treatment Technology to EPA and Ecology.	TPA	3/31/09			On schedule
M-91-03C	Submit annual revision of TRUM and MLLW PMP to Ecology.	TPA	6/30/09			On schedule
M-16-93A	Submit implementation work plan to prepare TRU/TRUM waste.	TPA	12/31/09			On Schedule
M-91-40G	Retrieve CH-RSW 12,200 cubic meters (cumulative).	TPA	12/31/09			Suspended per 09-AMCP-0007, dated 11/5/08
M-91-42F	Complete treatment of all CH-MLLW by 12/31/09.	TPA	12/31/09			Suspended per 09-AMCP-0007, dated 11/5/08



Number	Title	Туре	Due Date	Actual Date	Forecast Date	Status/ Comment
M-91-42L	Treat 6600 cubic meters CH TRUM (cumulative).	TPA	12/31/09			Suspended per 09-AMCP-0007, dated 11/5/08

#### **SELF-PERFORMED WORK**

The Section H. clause entitled, Self-Performed Work, is addressed in the Monthly Report Overview.

#### GOVERNMENT FURNISHED SERVICES AND ITEMS (GFS/I)

WIPP provides shipping resources and manages the schedule for transportation of containers to WIPP. The schedule is variable and the number of shipments is controlled by DOE-Headquarter (HQ) on a complex-wide priority. Cost for shipment of waste offsite is borne by the Carlsbad Field Office (CBFO).

Contract Section	Project	GFS/I	Status
CONTRACT - MOD M	1020		
J.12/C.2.3.6	PBS-13, Transuranic Waste Certification	WIPP provides shipping resources and manages the schedule for transportation of these containers to WIPP. The schedule is variable and the number of shipments is controlled by DOE-HQ on a complex-wide priority. Cost for shipment of TRU waste offsite is borne by the Carlsbad Field Office (CBFO).	Ongoing
PROPOSED (Reference	letter CHPRC-0800025, da	ted 8/29/08)	
C.2.3	PBS-13, TRU, TRUM Packaging, Characterization, Certification, and Transportation	DOE will provide the CCP matrix and schedule for implementation.	



Contract Section	Project	GFS/I	Status
PROPOSED (Reference	re letter CHPRC-0800249, d	lated 12/31/08)	
J.12/C.2.3.1	PBS-13 – Solid Waste Stabilization & Disposition	DOE-RL directs Other Site Contractors to logically tie waste types, packaging types, and quantities to waste generating activities within their baselines and supports CHPRC requests for forecasting information by June 30, 2008.	
J.12/C.2.3.2	PBS-13 – Solid Waste Stabilization & Disposition	DOE-RL approval of revised HNF-EP- 0063, Hanford Site Solid Waste Acceptance Criteria within 30 days of submittal.	
J.12/C.2.3.3	PBS-13 – Solid Waste Stabilization & Disposition	DOE-RL approval of DOE Order 435.1 exceptions for treatment and/or disposal within 30 days of submittal.	
J.12/C.2.3.6	PBS-13 – Solid Waste Stabilization & Disposition	DOE-RL shall provide approval from WIPP for NLOP and AREVA waste streams in support of production schedule.	
J.12/C.2.3.6	PBS-13 – Solid Waste Stabilization & Disposition	Certification requirements as of October 1, 2008, will be used for certification/characterization of all TRU waste.	
J.12/C.2.3.7	PBS-13 – Solid Waste Stabilization & Disposition	DOE-RL approval of SARP amendment to RTG shipping cask by September 30, 2009.	
J.12/C.2.3.7	PBS-13 – Solid Waste Stabilization & Disposition	DOE-RL to provide incremental funds, consistent with new direction, for any sampling and/or packaging required to characterize and prepare twelve (12) drums for compliant shipping to Savannah River Site.	
J.12/C.2.3.7	PBS-13 – Transuranic (TRU) Waste	DOE-RL to provide all equipment required to transport the twelve (12) drums to the Savannah River Site, in support of direction to prepare and ship.	

